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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/757,515

01/15/2004

Craig Hansen

43876-154

4558

7590

05/01/2006

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

COLEMAN, ERIC

ART UNIT

PAPER NUMBER

2183

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/757,515

Applicant(s)

HANSEN ET AL.

Examiner

Eric Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 is/are allowed.
- 6) ☒ Claim(s) 6-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 6-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Independent claim 6 is directed to a computer readable medium (see line 1 of claim 6). The medium is claimed as having an instruction stream for each of a plurality of thread that instruction a computer system to perform operations (and the operations are detailed in the body of the claims). However the type of computer readable medium is not detailed in the disclosure and consequently the computer readable medium is not limited to a tangible medium such as computer readable memory. Therefore the scope of the claimed computer readable medium comprises computer readable transmission medium. . A computer readable transmission medium is not one of the statutory classes of invention (i.e., machine, manufacture process , or composition of matter). Therefore the claim is rejected under 35 USC 101 as being directed to a computer readable transmission medium. Such a computer readable transmission medium having an instruction stream does not provide the stream in a manner that is tangibly embodied so as to be executable. Consequently

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Claim 6 (and claims 7-9 that depend on claim 6) are directed to non-statutory subject matter.

4. Independent claim 10 is directed to a computer data signal embodied in a transmission medium (see line 1 of claim 10) having an instruction stream for each of a plurality of threads that instruct a computer to perform operations that are detailed in the body of the claim. However a data signal is not one of the statutory classes of invention (i.e., machine, manufacture, process, or composition of matter). Such a computer data signal embodied in a transmission medium having an instruction stream does not provide the stream in a manner that is tangibly embodied so as to be executable. Consequently Claim 10 (and claims 11-14 that depend on claim 10) are rejected as being directed to non-statutory subject matter.

Allowable Subject Matter

5. Claims 1-5 are allowed.

6. The following is an examiner's statement of reasons for allowance: Claim 1 contains a combination of features that was not found in the prior art. The features of a multithreaded pipeline(that switches thread or task in one stage of the pipeline while another stage executes from another task or thread) that executed instructions from different streams in different stages of the same pipeline was taught by Dowling in figure 3 and col. 10, line 10-col. 11, line 20). The other feature claimed in claim 1 is taught by another reference Huff where the a single instruction operates on a plurality of data

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elements in a partitioned fields of a register to produce a concatenated result where the width of each of the data elements has an elemental width smaller than the register width (e.g., see figs. 4,6a,6b and col. 8, lines 19-43). However these references provide different configurations and none of these references (nor any other teaching found in the prior art) comprised any reason to combine the teachings. Therefore the combination of features in claim 1 (and claims 2-5 that depend on claim 1) were not taught by the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Panwar (patent No. 6,144,982) disclosed a pipeline processor and computing system including an apparatus for tracking pipeline resources (e.g., see abstract).

Emer (patent No. 6,073, 159) disclosed a system with thread properties attribute vector based thread selection (e.g., see abstract).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Coleman whose telephone number is (571) 272-4163. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC



ERIC COLEMAN
PRIMARY EXAMINER